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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,305	03/29/2001	Kenji Miharū	SPO-593	6732

7590 11/19/2002  
Sherman & Shalloway  
413 North Washington Street  
Alexandria, VA 22314

EXAMINER

CHEN, VIVIAN

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 11/19/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,305

Applicant(s)

MIHARU ET AL.

Examiner

Vivian Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

1. Claim 5 has been cancelled by Applicant.

### *Claim Rejections - 35 USC § 102*

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by KELCH ET AL (US 5,712,031).

KELCH ET AL discloses a laminate film comprising a polyester substrate layer coated with an adhesive layer comprising a terpolymer of ethylene, 3-10 wt% ethylenically unsaturated carboxylic acid, and 3-25 wt% methyl acrylate or methacrylate, wherein the adhesive layer is applied to the substrate layer by extrusion (lines 9-20, 42-50, col. 3; line 37, col. 4).

Regarding claim 1, the extrusion-laminating temperature is a product-by-process limitation and is not further limiting in as so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. *The patentability of a product does not depend on its method of production.* If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." [emphasis added] *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113. Once a product appearing substantially identical is found, the burden shifts to applicant to show a material or structural difference between the claimed product and the prior art product.

Regarding claim 2, the limitation "not more than 30 parts by weight of an ethylene/ $\alpha$ -olefin copolymer resin having a density of 840 to 900 kg/m<sup>3</sup>" does not specify a minimum amount of said copolymer and therefore the claim encompasses compositions containing zero parts by weight of the specified copolymer.

***Claim Rejections - 35 USC § 103***

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over KELCH ET AL (US 5,712,031).

Claims 1-2 are rejected under 35 U.S.C. § 102(b) as being anticipated by KELCH ET AL as stated above. However, in the event the claims are not anticipated, the claims are obvious for the following reasons:

KELCH ET AL discloses a laminate film comprising a polyester substrate layer coated with an adhesive layer comprising a terpolymer of ethylene, 3-10 wt% ethylenically unsaturated carboxylic acid, and 3-25 wt% methyl acrylate or methacrylate, wherein the adhesive layer is extrusion coated onto the substrate layer (lines 9-20, 42-50, col. 3; line 37, col. 4) and wherein the film can surface-treated prior to coating.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a conventional surface pretreatment such as oxidation to the polyester substrate layer prior to extruding the ethylene terpolymer coating in order to improve interlayer adhesion. Regarding claims 1, the extrusion-laminating temperature is a product-by-process limitation and is not further limiting in as so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the

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process, determination of patentability is based on the product itself. *The patentability of a product does not depend on its method of production.* If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." [emphasis added] *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113. Once a product appearing substantially identical is found, the burden shifts to applicant to show a *unobvious* difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1993). Regarding claim 2, the limitation "not more than 30 parts by weight of an ethylene/ $\alpha$ -olefin copolymer resin having a density of 840 to 900 kg/m<sup>3</sup>" does not specify a minimum amount of said copolymer and therefore the claim encompasses compositions containing zero parts by weight of the specified copolymer.

4. Claims 1-4, 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over SMITH, JR. (US 4,732,944) in view of REES (US 3,471,460) and ULLMANN'S ENCYCLOPEDIA OF INDUSTRIAL CHEMISTRY (hereinafter ULLMANN'S).

SMITH, JR discloses a laminates comprising a polyester film layer, an ionomer layer, and optionally an additional plastic layer wherein the ionomer is typically derived from ethylene, (meth)acrylic acid, and/or (meth)acrylate wherein the ionomer may be partially neutralized with up to 90% of a metal cation such as sodium (Figure 11; line 62, col. 4 to line 15, col. 5; lines 43-55, col. 8; lines 38-47, col. 11) as recited in claims 1-4, 10 However, the reference does not explicitly disclose the recited terpolymer.

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REES discloses that it is well known in the art to utilize ethylene terpolymers comprising at least 50 mol% ethylene, 0.2-25 mol% unsaturated carboxylic acid, and up to 49.8 mol% of a third monomer such as methyl methacrylate or ethyl acrylate (line 30, col. 1 to line 72, col. 2) as the basis for modified resins with improved mechanical and elastic properties.

ULLMANN'S discloses that it is well known in the art to use extrusion to apply coatings to preexisting films and also that it is well known in the art to surface treat films prior to coating in order to improve interlayer adhesion and coating characteristics (section 2.4).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a conventional surface pretreatment such as oxidation to the polyester substrate layer prior to using a conventional coating method such as extrusion to form an ionomeric layer on a polyester substrate in order to improve interlayer adhesion. Regarding claims 1, 10, the extrusion-laminating temperature is a product-by-process limitation and is not further limiting in as so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. *The patentability of a product does not depend on its method of production.* If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." [emphasis added] *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113. Once a product appearing substantially identical is found, the burden shifts to applicant to show a *unobvious* difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1993). Regarding claims 2, 10, the limitation "not more than 30 parts by weight of an ethylene/ $\alpha$ -

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olefin copolymer resin having a density of 840 to 900 kg/m<sup>3</sup>" does not specify a minimum amount of said copolymer and therefore the claim encompasses compositions containing zero parts by weight of the specified copolymer. One of ordinary skill in the art would have selected a polar material which is compatible and adherent to the ionomer layer for use in the one or more plastic base layers of the laminate (as indicated in claims 7-9) and/or selected the degree of surface modification of said base layer(s) as indicated in claim 6 in order to prevent delamination. Regarding claim 6, it would have been obvious to select the extrusion-lamination temperature of the ionomer layer based on the melt properties (e.g., melting point, melt viscosity, onset of thermal crosslinking, etc.) for a given ionomer formulation resin, in order to obtain the optimum coating and mechanical properties based on the specific type of equipment used and the other materials used in the other layers. It is conventional to apply thin metal or metal oxide coatings as indicated in claim 11 to plastic films used in glazing application in order to adjust the transmission and/or reflective properties for specific applications (e.g., to reflect infrared or UV radiation, adjust the color of transmitted light, etc.).

### ***Response to Arguments***

5. Applicant's arguments filed 9/3/2002 have been fully considered but they are not persuasive.

(A) Applicant argues that KELCH ET AL fails to anticipate each and every element in claims 1-2 under 35 USC 102(b). However, as stated above, the recited extrusion-laminating temperature in claim 1 is a product-by-process limitation. Although the Examiner agrees that Comparative Example 1 provides some indication that the recited process limitation materially

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affects the structure or properties of the resulting laminate, the showing provided is not commensurate in scope with the present claims, because the solitary comparative example provided merely indicates that the extrusion-laminating temperature appears to materially affect the properties or structure of the resulting laminate containing that specific layer composition, but fails to provide sufficient evidence with respect to the rest of the broadly recited compositions in the present claims.

Regarding the limitation regarding the density of the copolymer of component (b), the Examiner notes that the present claim language does not require the presence of said component because "not more than" encompasses a content of zero.

(B) Applicants argues that KELCH ET AL and SMITH, JR each fail to teach or suggest the extrusion-laminating temperature in claims 1, 10 under 35 USC 103(a). However, as discussed above, in regard to claims 1 and 10, the recited extrusion-laminating temperature is a product-by-process limitation. Although the Examiner agrees that Comparative Examples 1-2 provides some indication that the recited process limitation appears to materially affect the structure or properties of the resulting laminate, the showing provided is not commensurate in scope with the present claims, because the two comparative examples provided merely indicates that the extrusion-laminating temperature appears to materially affect the properties or structure of the resulting laminate containing that specific layer composition, but fails to provide sufficient evidence whether the extrusion temperature would be similarly critical for other compositions as broadly recited in the present claims. In lieu of any additional evidence supporting the criticality of the recited extrusion-laminating temperature with respect to the other compositions



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encompassed by product claims 1, Applicant's arguments regarding the lack of motivation to modify the extrusion temperature is deemed moot.

(C ) With respect to Applicant's arguments that the prior art of record fails to explicitly disclose or suggest the limitation specifying the density of the copolymer of component (b), the Examiner notes that the present claim language does not require the presence of said component because "not more than" encompasses a content of zero. In lieu of any claim language specifically requiring the presence of component b) in claims 2 and 10, Applicant's arguments regarding the criticality of the copolymer density is irrelevant.

(D) Applicant's arguments with respect to claim 6 with regard to KELCH ET AL is moot in view of the new ground(s) of rejection.

(E) Applicant argues that the Examples in the specification provide evidence of unexpected results with respect to the recited extrusion-laminating temperatures. However, while the Examiner agrees that Comparative Examples 1-2 provides some indication that the recited process limitation appears to materially affect the structure or properties of the resulting laminate, the showing provided is not commensurate in scope with the present claims, because the two comparative examples provided merely indicates that the extrusion-laminating temperature appears to materially affect the properties or structure of the resulting laminate containing that specific layer composition, but fails to provide sufficient evidence whether the extrusion temperature would be similarly critical for other compositions as broadly recited in the present claims (e.g., in regard to ethylene/unsaturated carboxylic acid/(meth)acrylic acid ester terpolymers with esters other than isobutyl acrylate and/or ester contents other than 8% to 15%; differing amounts of total carboxylic acid component and (meth)acrylic acid ester; etc.).

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*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (703) 305-3551. The examiner can normally be reached on Monday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (for non-after finals) and (703) 872-9311 (for after-finals).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

November 15, 2002



Vivian Chen  
Primary Examiner  
Art Unit 1773